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REGULATORY FLEXIBILITY COMMITTEE

Legislative Services Agency
200 West Washington Street, Suite 301
Indianapolis, Indiana 46204-2789
Tel: (317) 233-0696 Fax: (317) 232-2554

LSA Staff:

Sarah Burkman, Attorney for the Committee
John Parkey, Fiscal Analyst for the Committee

Authority: IC 8-1-2.6-4

MEETING MINUTES¹

Meeting Date: September 29, 2003
Meeting Time: 1:00 A.M.
Meeting Place: Midwest ISO, 701 City Center Dr.,
Town Hall
Meeting City: Carmel, Indiana
Meeting Number: 2

Members Present: Rep. Dan Stevenson, Co-Chairperson; Rep. Terri Austin; Rep. Alan Chowning; Rep. Jerry Denbo; Rep. Ryan Dvorak; Rep. Scott Reske; Rep. Jack Lutz; Rep. Robert Behning; Sen. James Merritt, Co-Chairperson; Sen. Beverly Gard; Sen. Thomas Wyss; Sen. Brandt Hershman; Sen. Timothy Lanane; Sen. Frank Mrvan.

Members Absent: Rep. Craig Fry; Rep. Scott Pelath; Rep. David Frizzell; Rep.

¹ Exhibits and other materials referenced in these minutes can be inspected and copied in the Legislative Information Center in Room 230 of the State House in Indianapolis, Indiana. Requests for copies may be mailed to the Legislative Information Center, Legislative Services Agency, 200 West Washington Street, Indianapolis, IN 46204-2789. A fee of \$0.15 per page and mailing costs will be charged for copies. These minutes are also available on the Internet at the General Assembly homepage. The URL address of the General Assembly homepage is <http://www.ai.org/legislative/>. No fee is charged for viewing, downloading, or printing minutes from the Internet.

Brooks LaPlante; Rep. Michael Murphy; Rep. David Yount; Sen. David Long; Sen. Becky Skillman; Sen. Lawrence Borst; Sen. Glenn Howard; Sen. Larry Lutz.

Representative Dan Stevenson and Senator James Merritt, Co-Chairmen of the Regulatory Flexibility Committee, convened the meeting at 1:15 p.m. Representative Stevenson thanked the Midwest Independent System Operator (MISO) for hosting the meeting and noted that an optional tour of the facility would be open to the Committee and members of the Indiana Utility Regulatory Commission (IURC) after the meeting. He then indicated that the meeting would cover the following topics: (1) the role of MISO in the transmission of electricity; (2) the IURC's annual reports on the telecommunications and energy industries; (3) the recently updated state energy forecast; (4) natural gas supply and pricing issues; and (5) coal gasification technologies. Having set forth the agenda, Representative Stevenson invited Bill Malcolm, Manager of State Regulatory Affairs for MISO, to address the Committee.

Role of the Midwest Independent System Operator²

Mr. Malcolm welcomed everyone assembled and introduced MISO as one of several regional transmission organizations (RTOs) serving the nation's energy grid. Mr. Malcolm explained that an RTO provides wholesale electric transmission service under one tariff for a large geographic area, which in MISO's case includes parts of 15 states. In providing this service, RTOs promote competition among regional generation sources, provide access to the grid, and manage regional flows of electricity.

With MISO serving as an independent, non-profit grid operator for much of the Midwest, its existing and planned service territory extends from Manitoba south to Kentucky, and from Ohio west to Missouri. Noting that MISO was the first RTO to be approved by the Federal Energy Regulatory Commission (FERC), Mr. Malcolm reported that it has been online since December 15, 2001, having taken six to seven years to become operational. MISO's reliability monitoring involves 35 utility control areas and 23 participating transmission owners, including Cinergy, Vectren, NiSource, and Indianapolis Power & Light (IPL). In addition to its Carmel facility, MISO has a second control center in St. Paul, Minnesota.

Turning to MISO's primary functions, Mr. Malcolm explained that MISO evaluates and then approves or denies utilities' requests for transmission service. By offering a single tariff for all sales, MISO allows utilities to engage in "one-stop shopping" for their transmission purchases. MISO also serves as a regional reliability coordinator, by monitoring the flow of electricity between control areas in and outside MISO's region. Finally, MISO is involved in long-term regional transmission planning, having approved \$1.3 billion in new projects in its first long-term transmission plan, unveiled in June 2003.

Focusing on MISO's presence in Indiana, Mr. Malcolm noted MISO's Indiana members: PSI/ Cinergy, Vectren, IPL, Indiana Municipal Power Agency, Hoosier Energy R.E.C., Wabash Valley Power Association, and NIPSCO (as of October 1, 2003). He pointed out that MISO's unique membership structure includes investor owned utilities, public power agencies, and independent transmission companies.

According to Mr. Malcolm, MISO's decision to locate in Indiana was based on the attractive economic development package offered by the Indiana Department of Commerce. The package included an IDFA loan, EDGE tax credits, and a training grant. As a result, MISO

²See Exhibit 1.

chose Indiana's offer over bids from Wisconsin, Illinois, Michigan, and other states. In addition to this aid from the state, MISO received incentives from the City of Carmel and assistance from the IURC in establishing its operations.

In return, MISO has had a positive economic impact in Indiana, creating 245 new jobs. It occupies three buildings in Carmel and employs over 30 local consultants. Soon, the area will serve as the home of the newly formed Organization of Midwest ISO States, an Indiana corporation whose members include the utility commissioners of the 15 states in MISO's territory. Additionally, by employing a highly educated workforce and hosting frequent meetings and seminars, MISO brings business to the airport and local hotels and restaurants.

In discussing recent developments at MISO, Mr. Malcolm reported the addition of NIPSCO and FirstEnergy as member utilities, effective October 1, 2003. Mr. Malcolm noted that this expansion will add an independent transmission company to MISO's diverse membership, with the two utilities participating in MISO through GridAmerica, a British-based independent transmission company. He also noted the participation of James Torgerson, MISO's President and CEO, in a FERC-sponsored conference on Midwest RTO issues, including dealing with utilities that are not members of an RTO. According to Mr. Malcolm, MISO is currently negotiating with several nonparticipating utilities, including Ameren, which serves customers in Missouri.

On the issue of transmission reliability, Mr. Malcolm suggested that the large-scale blackout of August 14 demonstrated the interdependent nature of the Eastern Interconnect, which includes parts of the energy grid from the Rocky Mountains to the Atlantic coast and north into Canada. He indicated that MISO is working with the Department of Energy to determine definitively what caused the blackout. In another effort to improve reliability, MISO is negotiating a Joint Operating Agreement with PJM, a Pennsylvania-based RTO seeking to serve the Midwest by allowing AEP and Commonwealth Edison to join its membership. The Joint Operating Agreement would allow for the real-time exchange of data between the RTOs, establish protocols for re-dispatching generation to relieve congestion, provide identical market structures for the Midwestern and Mid-Atlantic regions, and re-examine the relationships between RTOs and control area operators. Finally, MISO recently announced its Midwest Market Initiative, which involves a more efficient method to manage use of the transmission system. The new market-based approach to managing grid congestion will be phased in incrementally and will replace the current system involving curtailments, or transmission line overlays, with "locational marginal pricing," a method used by PJM. MISO expects to have real-time markets operating by May 2004.

In response to a question from Senator Wyss as to why AEP had sought membership in PJM, Mr. Malcolm explained that RTO membership is voluntary, and that FERC had given nonparticipating utilities in the Midwest a choice of joining either MISO or PJM. He deferred to AEP as to its reasons for preferring PJM.

Annual Reports from the IURC

(1) Report on the Natural Gas Industry³

Representative Stevenson then invited Chairman William McCarty of the IURC to present the Commission's annual reports on the energy and telecommunications industries.

³See Exhibit 2.

Before presenting the reports, Chairman McCarty thanked Representative Stevenson and Senator Merritt for their recent editorial on the unregulated nature of the wholesale natural gas market. Published in the *Indianapolis Star*, the joint letter explained the inability of gas utilities, state regulators, and legislators to control wholesale natural gas prices. At the same time, it recognized that certain efforts can be undertaken to control heating costs, such as prudent purchasing practices by utilities, and participation in budget billing plans and weatherization efforts on the part of consumers. According to Chairman McCarty, the letter should help consumers better understand their gas bills as the heating season approaches.

Chairman McCarty then directed the Committee's attention to the IURC's report on the natural gas industry. To illustrate the volatility of the wholesale market for natural gas, Chairman McCarty displayed a graph of NYMEX natural gas futures for the period covering February 26, 2003, through July 23, 2003. He noted that in late February, the wholesale price spiked to nearly \$11/MMBtu, reflecting a perceived shortage of supply during a cold winter. While prices declined after this spike, eventually leveling off in April, Chairman McCarty reported that the current day's price stood at \$4.78/MMBtu, compared to a price of about \$2.40/MMBtu a year ago. In terms of heating bills for the upcoming winter, Chairman McCarty explained that this near doubling of the wholesale price would not translate into consumer bills that are twice as high as those of last season. However, customers will see an increase in their bills. When the IURC hosted its annual forum with gas utilities in July, several companies predicted consumer price increases of up to 35% over last season. However, recent estimates have suggested more modest price increases of up to 10% over last season. Chairman McCarty noted that this unpredictability in price occurs in the context of an unregulated, national market for natural gas. He cautioned legislators against introducing similar uncertainty into the electricity sector by rushing to deregulate that industry as well.

While concluding that retail price increases may be inevitable in the coming months, Chairman McCarty reported that there were no corresponding concerns that supplies would be inadequate to meet demand. During last winter's very cold months, gas reserves were largely drawn down to meet increased demand. However, gas utilities have assured the IURC that they have steadily restored gas supplies to their normal capacities as the upcoming heating season approaches.

Noting that the IURC's report contained a comparison of the average bills of Indiana gas utilities over the past five years, Senator Wyss asked why there was a 63% differential between the highest and lowest average bills. Chairman McCarty acknowledged the disparity in the average bills of the various Indiana gas utilities and attributed the range in pricing to the different rates charged by the different utilities. He pointed out that the companies serving the northern third of Indiana have tended to have higher average bills. Noting the wide range of prices charged by small utilities, Chairman McCarty stressed that there did not seem to be a correlation between the size of a utility and its average billings. While some small utilities do not have the bargaining power to negotiate lower wholesale prices from suppliers, others have been able to pool their resources to increase their purchasing power and then pass along the savings to customers.

Representative Behning noted that a recent Indiana farming report attributed the predicted spike in natural gas prices over the next decade to environmental restrictions on opening new gas wells. According to Representative Behning, the report advocated increasing production by bringing more wells online. He then asked whether the country had adequate reserves to meet increasing demand. Chairman McCarty reported that current reserves have been adequate to meet existing demand. However, as the price of gas falls, so does the incentive to drill new rigs. While the relatively high prices of recent

months have resulted in new rigs coming online, there has been a corresponding decrease in production from older rigs as their supplies are exhausted. Chairman McCarty acknowledged that a recovering economy, when coupled with the already increased use of natural gas to fuel electricity generation, could lead to a supply crisis in the near future.

Senator Wyss asked whether many gas-fired power plants were adaptable to other fuel sources, such as coal. According to Chairman McCarty, most gas-fired generators are capable of using only natural gas. While none are adaptable to coal, a small percentage of the plants are adaptable to other petroleum-based fuel sources, such as diesel. He noted that a diesel-switching capability defeats the environmental advantages of gas-fired plants touted by proponents of merchant power plants.

Chairman McCarty then displayed a graph depicting the projected growth in gas demand through 2010 among the residential, commercial, industrial, and power-generation sectors. The projected demand appeared to be relatively stable across all sectors except power generation, where demand was projected to steadily increase over the next decade. This was further illustrated by a graphic showing the region's electric generation capacity by fuel type in 1998, versus its expected generation capacity by fuel type by the year 2005. While natural gas accounted for only 2% of the fuel used for power production in 1998, it is predicted to account for 19% of the region's generating capacity by 2005. Noting the corresponding decrease in the use of coal predicted over the same period, Chairman McCarty suggested that the state's energy policy should focus on using Indiana's significant coal resources in a more efficient and environmentally sound manner.

Turning to the IURC's recent actions in the area of natural gas, Chairman McCarty reported that the IURC conducted a review of the gas costs of Indiana's three largest gas utilities, in some cases disallowing proposed gas cost adjustments. The Commission also has encouraged utilities to consider certain purchasing strategies to mitigate price volatility, such as long-term contracts, mixed portfolios, and hedging. In response to concerns about the impact of high heating bills on customers, the IURC has urged utilities to offer and promote budget billing plans. Finally, the IURC held its annual industry forum in July this year, allowing it to learn of projected pricing and supply issues well in advance of the heating season.

Senator Hershman asked whether there was any data comparing the price volatility of natural gas versus that of liquid propane, which is used by many rural customers. Chairman McCarty responded that he could not comment on the price volatility of liquid propane, which is not regulated by the IURC. However, he stated that he was aware of reported price increases for that commodity as well.

Senator Merritt asked whether other companies had proposed programs similar to NIPSCO's Depend-a-Bill, which allows customers to pay fixed monthly gas bills for 12 months, regardless of any changes in wholesale prices during the contract period. Noting that NIPSCO's three-year pilot program had been limited to 1,500 customers during its first year, Senator Merritt suggested that such programs should be made more widely available. Chairman McCarty indicated that Weatherwise, a company that works with energy companies in several states, has proposed offering twelve-month fixed contracts to Indiana customers. Under such a contract, Weatherwise would assume the risk of actual prices increasing above the price specified in the contract. In exchange for stable prices, customers would assume the risk of paying a premium for their heating costs if actual prices are lower than the prices under the contract. Chairman McCarty expressed concern that fixed price contracts involve the risk that the supplying company will not be able to provide gas under the contracts when wholesale prices rise dramatically. In order to be a viable option for assuring price stability, such contracts must be backed by companies that

are financially able to assume the losses when prices increase. This concern is the reason that enrollment caps were established for the Depend-a-Bill program.

Senator Mrvan wondered whether the companies offering fixed billing contracts could simply spread their losses to other customers through increased rates the following season. Chairman McCarty responded that the IURC would not allow a utility to spread the loss to all ratepayers through an increased rate base. However, the utility could increase the price offered in fixed bill contracts the following year.

(2) Report on the Electric Industry⁴

Noting the interrelatedness of the natural gas and electric industries, Chairman McCarty turned the Committee's attention to the IURC's Electricity Report. He reported that the IURC had settled a controversial rate case with NIPSCO earlier in the year, and that the Commission's pending rate cases included filings by PSI and Wabash Valley Power Association (WVPA). With the State Utility Forecasting Group (SUGF) predicting the need for an additional 1000 MW in generating capacity over the next five years, Chairman McCarty pointed out that PSI, the Indiana Municipal Power Agency (IMPA), and SIGECO had submitted modest proposals for new generating plants.

Because the proposed new plants will not increase generating capacity enough to meet the predicted growth in demand, certain demand side management (DSM) programs, such as one proposed by SIGECO, will become more important. Chairman McCarty reported that the IURC has approved other conservation programs, such as the direct load control programs of WVPA, SIGECO, PSI, and IPL. These programs allow a utility to control the cycling of a customer's air conditioning compressor through a remote controllable switch on the compressor's electrical feed. During peak use periods, the utility can reduce its system load by remotely activating the switch to limit the compressor's cycling time. In return for the reduced air conditioning, customers receive credits on their summer bills.

According to Chairman McCarty, other notable proceedings have involved petitions by utilities to recover the costs of complying with federal environmental mandates. For example, several utilities have sought to recover capital costs for new pollution control equipment installed to comply with air quality regulations that will take effect in the summer of 2004.

Commenting briefly on RTO development issues, Chairman McCarty expressed the IURC's support for a coordinated transmission system for the Midwest. However, he cautioned that this support for regional transmission should not be interpreted as a commitment to a deregulated electricity market. According to Chairman McCarty, deregulation should not be considered until there is evidence of a sufficient energy supply and an efficient transmission system. He suggested that the blackout of August 14 raises questions as to adequacy of the existing transmission system.

Turning finally to the issue of merchant power plants, Chairman McCarty reported that eight plants are currently operating in Indiana. However, with two of the plants serving as backup generators for IPL, only six of the plants are true independent power producers that sell energy on the wholesale market. Chairman McCarty predicted that of the seven additional plants approved by the IURC, most will not be built due to unfavorable market conditions. The IURC has not received any petitions for new plants since March 2001, and four projects have been cancelled. Chairman McCarty suggested that while the

⁴See Exhibit 3.

cancellation of the proposed plants may be unfortunate in terms of lost opportunities for economic development, there would have been no advantage to Indiana in gaining plants that the market could not sustain. With the cancellation of the projects, Indiana has avoided becoming home to "ghost merchant power plants."

Because they are fueled by natural gas, merchant plants have become expensive to operate under current market conditions. As examples of the dangers of relying too heavily on independent power producers, Chairman McCarty pointed to Illinois and Ohio, where the corresponding failure to invest in the baseload capacities of regulated utilities has resulted in escalating electricity prices for consumers. To prevent similar price increases in Indiana, the IURC has attempted to ensure adequate baseload capacity, while encouraging purchases from independent power producers during peak periods.

(3) Report on the Telecommunications Industry⁵

Shifting the discussion to the IURC's Telephone Report, Chairman McCarty reminded the Committee that the report focuses on the status of competition in the wireline telephone industry in Indiana and provides data on the market shares of both incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs). He reported that in 2002, CLECs served 357,000 customers in Indiana, which constituted 8.4% of total wireline services and represented an increase in the CLECs' market share of 2.5 percentage points over 2001 levels. Noting that the prices for unbundled network elements (UNEs) set by the IURC in March 2002 have increased the level of competition, Chairman McCarty predicted that the CLECs' market share could approach 16% by the end of 2003.

Senator Wyss commented that the ILECs' market share could also be impacted by wireless number portability, scheduled to take effect in November 2003. He suggested that the change could encourage some consumers to forego wireline services altogether, as wireless services become increasingly like land-based services. Chairman McCarty agreed that the availability of wireless service and other technologies such as voice over cable impacts the market for traditional wireline services. Acknowledging that the report does not address the impacts of these alternatives, Chairman McCarty noted that the IURC has yet to regulate the wireless industry. While he disagreed that the IURC does not have the authority to regulate the wireless industry, Chairman McCarty expressed his preference not to have to do so. However, given the increasing number of complaints about wireless service quality and billing practices, he suggested that the IURC may have to become involved at some point.

Chairman McCarty pointed out that the threat to ILECs from wireless competition may be mitigated somewhat as ILECs gain approval to provide long distance service. In August, the IURC recommended approval of SBC's application to provide long distance service in Indiana. With a decision expected from the Federal Communications Commission (FCC) in October, Chairman McCarty predicted that SBC would receive approval to provide long distance in Indiana and three other Midwestern states included in the application.

Returning to the status of competition in the local wireline market, Chairman McCarty reported that the FCC placed Indiana at the bottom of surrounding states in terms of overall competition. According to the FCC, CLEC market share for 2002 was 21% in Michigan, 19% in Illinois, 13% in Wisconsin, and 9% in Ohio. Noting that Michigan had acted before the other states to lower the UNE prices paid by CLECs, Chairman McCarty

⁵See Exhibit 4.

predicted that competition levels in Indiana, Wisconsin, and Ohio would approach those in Michigan and Illinois by the end of 2003. However, Chairman McCarty also noted that SBC had a case pending before the IURC to increase its UNE rates. With the IURC committed to issue an order by December, Chairman McCarty indicated that if such an increase is approved, its effects on competition would have to be closely monitored.

As detailed in the IURC report, much of the competitive growth in 2002 can be attributed to the IURC-ordered availability of the unbundled network element platform (UNE-P). Chairman McCarty explained that UNE-P is a bundled platform—including loop, switching, and transport—that CLECs buy from ILECs at wholesale and then resell. In contrast, UNE loops, also known as unbundled local loops, are used for the last mile connection to customers. While the most frequently used method for CLECs to provide service in 2002 was through the use of CLEC-owned facilities, with 30% of all CLEC lines so provisioned, the second most frequently used methods, at 26% each, were UNE-P and UNE loops. This marks a shift in the how services were provided from 2001, when 41% of competitive access lines were provisioned through CLEC-owned facilities, and only 15% through UNE-P. In response to a question from Representative Lutz, Chairman McCarty explained that the decrease in the percentage of lines provisioned through CLEC-owned facilities did not represent a decrease in new infrastructure development by CLECs, but rather slower growth in such investments, as CLECs increased their use of the more readily available UNE-P.

In other developments, Chairman McCarty indicated that the IURC was in the process of renegotiating alternative regulatory plans with SBC, Verizon, and Sprint/United. As part of any settlement reached, the IURC will insist that in exchange for certain relaxed regulations, the ILECs must commit to broadband deployment in Indiana. In stressing the importance of broadband development, Chairman McCarty noted that the IURC was in the process of reviewing the FCC's Triennial Review Order and determining its implications for both broadband deployment and UNE pricing in Indiana.

Senator Hershman asked whether the FCC's order had deregulated broadband. According to Chairman McCarty, while the FCC did not deregulate broadband, it did determine that when ILECs invest in new fiber optics for broadband, they cannot be forced to share the fiber optics with CLECs that would then buy broadband service from the ILECs for the purpose of reselling it. At that point, Commissioner Landis spoke up to announce that both ILECs and CLECs had already indicated their intentions to appeal the Triennial Review, raising the possibility that the some of the order's provisions could be of only temporary effect.

With respect to actual broadband access in Indiana in 2002, Chairman McCarty reported that with 39% of access provided by ILECs, and 7% provided by CLECs, the majority (54%) of Indiana's broadband access was provided by cable companies and all other classes of providers. He then displayed maps showing the deployment of both DSL (digital subscriber line) service and cable broadband across Indiana. Both maps illustrated greater service availability in the state's more densely populated areas.

Finally, Chairman McCarty indicated that he would conclude his presentation with his annual plea for authority over utility mergers and acquisitions. He lamented the IURC's inability to act on behalf of Indiana consumers in recent transactions, such as the acquisition of Indiana American Water Co. by German-based RWE Energy Co., and the acquisition of Utility Center in Fort Wayne by Philadelphia Suburban. With 25 other states having authority over utility mergers and acquisitions, including the neighboring states of Kentucky and Illinois, Chairman McCarty stressed the need for Indiana to have such oversight as well.

State Energy Forecast⁶

Representative Stevenson then invited Dr. Ron Rardin of the State Utility Forecasting Group (SUGF) to present the state energy forecast. Dr. Rardin reminded the Committee that the SUGF uses data from the IURC and electric utilities to produce a state energy forecast every two years. He indicated that the 2003 forecast represents the ninth forecast prepared by the SUGF since its formation in 1985.

Dr. Rardin explained that the 2003 forecast predicts electricity demand by sector through the year 2020, with 33% of total demand expected to come from the residential sector, 26% from the commercial sector, and 41% from the industrial sector. In terms of annual growth in demand, residential demand is projected to grow at a rate of 1.95%, commercial demand at rate of 2.71%, and industrial demand at a rate of 1.97%. Dr. Rardin noted that the total predicted growth in demand was revised downward in the 2003 forecast from the 2001 forecast, due mainly to the economic slowdown at both the national and state levels. According to Dr. Rardin, the downward revision can be attributed mainly to a slowdown in industrial demand, which has been severely impacted by the decrease in manufacturing activity. To a lesser degree, residential energy demand has been impacted by reduced household incomes. In contrast, commercial demand has been relatively unaffected by recent economic conditions, and is forecast to grow at a brisk pace as the economy continues to become more services-oriented.

Turning to the forecast for growth in peak demand, Dr. Rardin displayed a line graph that showed the predicted growth in peak demand in the 2003 forecast closely tracking that of the 2001 forecast. Dr. Rardin noted that while the predicted growth in total energy demand was revised downward due to the influence of slowing industrial demand, there was no corresponding downward revision in the predicted growth in peak demand. According to Dr. Rardin, the close alignment of the 2001 and 2003 forecasts for peak demand could be explained by the fact that peak demand is driven mainly by residential demand, mostly in the form of demand from air conditioning use in the summer. With industrial demand less of an influencing factor, predicted peak demand did not reflect the economic slowdown that was reflected in the predicted total demand growth.

Dr. Rardin then shifted the discussion from demand forecasts to recent trends in power plant construction. With high market prices for electricity in 1998 and 1999, there was a surge in proposals for new projects in 1999 and 2000. However, as electricity prices fell in 2000 and beyond, the number of new proposals decreased, and the levels of both approved new capacity and operational new capacity leveled off. In 2002 and 2003, cancellations of proposed capacity actually exceeded new proposed capacity. In 2002, numerous projects were delayed, many of them indefinitely.

Partly because of this stunted growth in capacity, the SUGF has projected that existing and approved electricity resources will fall short of predicted demand in the near future and beyond. Dr. Rardin observed that while previous forecasts have identified capacity shortfalls, the 2003 forecast reflects an acceleration in the growth of the shortfall. Furthermore, while the 1999 and 2001 forecasts determined that the greatest need was for peaking capacity, the 2003 forecast represents the first time the SUGF has predicted the largest shortfall in base load capacity. Dr. Rardin suggested that the forecasted shortfall could be addressed through conservation measures, added purchases from merchant plants or other utilities, and/or the construction of new capacity. He acknowledged that the implementation of any of these alternatives would involve policy decisions on the part of

⁶See Exhibit 5.

legislators and regulators.

Dr. Rardin concluded his remarks with the report's outlook for average real electricity prices. While the 2003 forecast suggests largely stable average real energy prices in the coming years, Dr. Rardin cautioned that actual price declines are unlikely given Indiana's needs for capacity. However, Indiana's high percentage of coal-fired generators, which are relatively inexpensive to operate, should factor against any price increases.

Natural Gas Supply and Pricing Issues⁷

Returning to natural gas issues, Representative Stevenson invited testimony from Jeffrey Petrash of the American Gas Association (AGA). Mr. Petrash introduced the AGA as a national, nonprofit trade association representing 191 investor-owned and municipal natural gas utilities. He stressed that the AGA does not represent the interests of natural gas producers or interstate gas pipelines. Rather, the AGA's members are natural gas delivery companies that earn money not on the sale of natural gas, but on the delivery of gas to consumers. Accordingly, the interests of the member utilities are aligned with those of their customers in terms of natural gas pricing. When gas prices are high, AGA members must pay those high prices when they purchase their supplies from natural gas producers and marketers.

Mr. Petrash reported that natural gas accounts for one fourth of the nation's primary energy consumption, with consumption having increased by 16% from 1991 through 2001. He attributed the growth during that period to a stretch of relatively stable prices, which were the result of ample supplies. These ample supplies were in turn the result of both reduced demand during the economic downturn of the 1980s and the adoption of the Natural Gas Policy Act of 1978, which allowed the presidential declaration of a natural gas supply emergency.

However, in 2000 and 2001, a number of market factors combined to create what Mr. Petrash termed "the perfect storm." With a briskly growing economy, natural gas demand was increasing on a nationwide basis. At the same time, actual gas production, which had remained below the country's productive capacity during the late 1990s, began to meet that capacity as maturing wells yielded lessening supplies. This convergence of increasing demand and decreasing capacity ended a decade of natural gas price stability and resulted in higher average natural gas bills in 2000 and 2001.

Turning from the recent past to the future of the market, Mr. Petrash indicated that while continued growth of the national natural gas market is anticipated, former predictions of a 50% increase in consumption have been revised due to recent high prices. While the current daily consumption rate of 23 Tcf⁸ had been forecast to increase to 35 Tcf, analysts have recently suggested a more modest increase to 30 Tcf. In terms of pricing, Mr. Petrash reported that while wellhead gas prices for 2003 would probably average in the range of \$5/MMBtu, the Energy Information Administration had estimated average prices of \$4/MMBtu in 2004.

Upon hearing those statistics, Representative Chowning asked why lower prices were predicted for 2004, given the simultaneous predictions that demand would soon outpace supply. Mr. Petrash explained that supplies would likely be adequate in 2004, due to

⁷See Exhibit 6.

⁸Tcf=trillion cubic feet.

increased drilling spurred by the recent high prices. He reiterated Chairman McCarty's assurances regarding near-term supply concerns, noting that in recent weeks reserves had been filled to levels within 5% of the five-year historic average.

Senator Lanane then asked what the predicted wholesale prices would mean in terms of consumer bills. Mr. Petrash acknowledged that wholesale prices had fallen from the \$5/MMBtu range to the \$4/MMBtu range in recent weeks. However, customer bills for the upcoming winter would likely reflect the \$5/MMBtu prices.

Commenting further on supplies, Mr. Petrash pointed out that the country has a significant gas resource base, with an estimated 60 years of supply. However, while the resources are vast, the challenge lies in extracting these supplies. He explained that natural gas basins tend to follow a depletion pattern over time, with the first wells producing the most gas, and subsequent smaller finds producing less gas. Many of the nation's wells are now in their mature years and yielding less gas. Mr. Petrash noted that such basin exhaustion has been observed in the Gulf of Mexico shelf, where offshore wells have an average useful life of three to six years. While onshore wells typically have a longer life, even these wells have become depleted in recent years. Because of this depletion, new supply must come from new areas and sources, such as the arctic reserves, the Rocky Mountain reserves, deepwater wells, and liquified natural gas (LNG) imports. Mr. Petrash cautioned that while Canadian gas has accounted for a growing portion of U.S. consumption over the past decade, the Canadian gas industry is facing production challenges similar to those experienced in this country. As a result, the United States cannot depend on Canadian sources to meet its future gas demand.

In response to a question from Senator Merritt about plans for constructing an Alaskan pipeline, Mr. Petrash indicated that the two proposed routes for the pipeline have been a source of contention. While Canadian officials prefer a route that would pass through the McKenzie Delta in Canada, the governor of Alaska has insisted on a route that would follow the Alaskan highway into the lower 48 states. Mr. Petrash noted that the Alaskan route appears in both versions of the Congressional energy bill. Regardless of the route chosen, an Alaskan pipeline would represent the largest public works project in the nation's history, with costs estimated at \$20 billion.

Coal Gasification Technologies⁹

Noting the need for alternatives to natural gas, Representative Stevenson introduced Cliff Keeler of Wabash River Energy Ltd. to discuss coal gasification technologies. Mr. Keeler explained that the Wabash River facility uses E-Gas™ technology, one of two available gasification technologies. He noted that E-Gas™ is a multi-fuel, multi-product technology that involves the conversion of solid fuel sources into a variety of products. For example, an E-Gas™ gasifier can convert coal, petroleum coke, sludge, biomass, waste oil, or plastics into power, steam, or hot water. It also can use these same resources to produce chemicals or fuels, such as hydrogen, methanol, acetic acid, diesel, and jet fuel. The byproducts of the gasification process include slag and elemental sulfur, both of which are nonhazardous and non-leachable. Mr. Keeler noted that the sulfur byproduct produced at the Wabash facility is resold to the agricultural industry in Florida. The slag, which is a black, sandlike material, can be used in asphalt and as construction backfill or landfill cover.

After discussing the technologies involved, Mr. Keeler described the Wabash facility itself.

⁹See Exhibit 7.

He explained that the Wabash project involves combined cycle repowering, meaning that the gasification process includes both a gas cycle and a steam cycle, with the steam cycle generating one third of the power produced. At the Wabash facility, the energy produced is used to repower a combustion turbine owned by Cinergy. This repowering results in a 262 MW net output from Cinergy's 100 MW unit, which was built in 1953. Operational since 1995, the Wabash facility is fueled by bituminous coal and petroleum coke, which can have up to a 7% sulfur content. By producing more energy from the same amount of coal, the Wabash facility is 20% more efficient than a typical coal-fired plant.

According to Mr. Keeler, the facility has demonstrated superior environmental performance through reduced emissions and improved pollutant removal. For example, the Cinergy unit has recorded reduced emissions of SO₂, NO_x, CO, and particulate matter since its repowering. Additionally, the Wabash facility is able to remove approximately 50% of the mercury in coal, and other gasification plants that use carbon beds can remove up to 95% of mercury. Referring to the eventual possibility of carbon dioxide emissions standards, Mr. Keeler pointed out that gasification represents the only "removal ready" technology for carbon dioxide. In answering a question from Senator Wyss about the status of carbon dioxide sequestration, Mr. Keeler noted that the Department of Energy has provided funding to enhance this developing technology.

In terms of reliability, the Wabash facility has recorded fewer and fewer forced outage hours over its years of operation, with its once quarterly scheduled outages now occurring semiannually. At the same time the facility has increased its reliability percentages, it has decreased its operation and maintenance costs.

Mr. Keeler concluded his presentation by describing the economic and practical advantages that the increased use of coal gasification could provide to Indiana. Noting the Committee's concern about the rising costs of natural gas, Mr. Keeler suggested that coal gasification represents an affordable alternative to the use of natural gas for electric generation. He explained that whenever the price of natural gas exceeds the price of coal by at least \$2.50/MMBtu, it is more economic to use an integrated gasification combined cycle (IGCC) plant, such as the Wabash facility, than a natural gas combined cycle (NGCC) plant. Given Indiana's abundant supply of coal and the nation's uncertain natural gas supply, Mr. Keeler urged the Committee to consider coal gasification technologies as it shapes Indiana's future energy policy.

After Mr. Keeler's testimony, Representative Stevenson informed the Committee of the possibility of a third meeting during the 2003 interim. After thanking Mr. Malcolm and the MISO staff, he and Senator Merritt adjourned the meeting at approximately 4:15 p.m.